

negation of any economic benefit from noncompliance. The Contractor will also be notified of the requirement.”

Section I.B.1.a.2 of the Permit requires sanctions for chronic failure to comply with the Construction Program. It states, “CDOT shall develop new procedures and/or document existing procedures to improve individuals’ and Contractors’ performance in implementing the Construction Program, including sanctions for those individuals and Contractors that have a record of chronic failure to comply with or enforce the program requirements. The procedure must include a mechanism to track compliance records of individuals and Contractors, including those subject to the actions required in subparagraph 1)b)i) of this section. These procedures shall be submitted to the Division via a Technical Memorandum within **12 months** after the permit effective date. Implementation of the approved procedures shall occur within **18 months** of the permit effective date.”

Part I.B.1.a of the Permit requires CDOT to implement its Construction Sites Program. The EPA was provided the Green Book as the overarching program document for CDOT’s Construction Sites Program.

Section 208.09 of the Green Book addresses failure of contractors to perform erosion control and states, “Liquidated damages will be applied for failure to comply with the [Construction General Permit] and these [Green Book specifications], including but not limited to” fourteen specifically listed items. It goes on to state, “The Engineer will immediately notify the Contractor in writing of each incident of failure to perform erosion control in accordance with the [Construction General Permit], including, but not limited to items (1) through (14) above. Correction shall be made as soon as possible but no later than 48 hrs from the date of notification to correct the failure. The Contractor will be charged liquidated damages in the amount of \$875 for each calendar day after the 48 hour period has expired, that one or more of the incidents of failure to perform the requirements of [the Construction General Permit], including, but not limited to items (1) through (14) above, remains uncorrected.”

## **2CS Findings:**

The following two construction sites illustrate CDOT’s failure to ensure compliance with the Construction General Permit, enforce according to the Green Book, and implement sanctions for chronic failures at construction sites, specifically for design-bid projects.

### **I-25 Project - Kiewit**

The EPA reviewed the I-25 widening project north of Colorado Springs (I-25 project). Kiewit was the contractor that performed the work. The I-25 project extended from just south of Highway 105 in Monument to just north of Woodmen Road in Colorado Springs. Work began at the end of March 2013, and the final walk-through with CDOT occurred on January 20, 2015 and February 4, 2015. At the time of the EPA’s inspection, CDOT had taken control of the I-25 project, and it had almost reached final stabilization. As such, the EPA did not visit the I-25 project aside from driving by the project during the course of other site visits.

The primary CDOT Region 2 inspector, Ms. Erickson, was interviewed about her inspections and related work for the I-25 project. CDOT’s inspection reports were reviewed from May 6, 2013 through March 24, 2015, which were a combination of monthly audits, post-storm inspections, and RECAT inspections. The information provided by Ms. Erickson and these reports indicate that CDOT identified

inadequate BMPs, CDOT identified repetitive findings, Kiewit failed to correct findings within 48 hours on multiple occasions with CDOT's knowledge, and Kiewit failed to meet the requirements of the Construction General Permit.

#### *Nature of Kiewit's non-compliance*

An inspection report labeled "I-25 Post Rain Event Inspection. Northbound lane. Aug 23, 2013" was reviewed. Based on the August 23, 2013 inspection report, there were no or limited BMPs to control erosion at the I-25 Project, and the inspection report shows evidence of the resulting discharge of sediment to Pine Creek, Black Squirrel Creek, Jackson Creek, and Teachout Creek. The inspection report provides direction to Kiewit for adding and cleaning out BMPs. This inspection report was one example showing impacts to waters as a result of Kiewit's inaction and CDOT's failure to ensure compliance with the Construction General Permit, failure to enforce according to the Green Book, and failure to implement sanctions for chronic failures of Kiewit to comply with Green Book requirements. As demonstrated by this inspection report, Kiewit failed to comply with Parts I.D.2 (BMPs shall be adequately designed), I.D.8 (adequate site assessments shall assess adequacy of BMPs), and I.D.1.a (stormwater discharges shall not cause or contribute to exceedance of any water quality standard) of the Construction General Permit, all of which are cited in full above.

- Photos 1 and 2 in the August 23, 2013 inspection report show concrete culvert inlets that appear to be approximately 80-90% full with sediment, and the report noted that this was due to a lack of upstream BMPs. The report also stated for both photos 1 and 2, "Replace erosion logs around the inlet. Temporarily or permanently stabilize associated slopes discharging to the inlet. Add check dams to bare channels. Alternatively, add a compacted berm at the end of the channel with an excavated sediment trap at in front of it."
- Additional photos in the August 23, 2013 inspection report show similar inlets where a straw wattle in front of the inlet appears to have been overcome with sediment (photos 6, 7, 9, 10, 11, and 19) or there was no protection around the inlet (photos 15, 17, 24, and 25). A significant amount of erosion appears around some inlets, as evidenced by rills and other channels where erosion appears to have occurred (photos 2, 6, 9, 11, 19, and 25).
- Photo 3 in the August 23, 2013 inspection report shows a concrete channel containing sediment and a disturbed hill with rills above the channel to the left. No BMPs are visible on the hill. The report states, "Temporarily or permanently stabilize associated slopes discharging to the ditch or install toe protection at toe of slope."
- Photos 4 and 5 of the August 23, 2013 inspection report show a detention pond at Woodmen Road with an outfall to Pine Creek. Photo 5 shows evidence of sediment discharged to Pine Creek through the outlet. The report states, "Block the outlet structure and use the permanent detention pond as a sediment trap until the upstream features are stabilized and the wall of the detention pond are also stabilized. Add a maintenance plan for the sediment trap to the SWMP."
- Photo 26 of the August 23, 2013 inspection report shows a disturbed drainage with no BMPs from mile marker 159.7 to 150 along I-25 and notes that a disturbed drainage of this length and associated slopes are "typically seen on this project with no BMPs, except erosion logs at the inlet."

- Photos of creek crossings in the August 23, 2013 inspection report show a lack of BMPs in the area, rills on the hillsides above the creeks, and sediment plumes in the creeks (photos 12, 16, and 22). Creeks included Black Squirrel Creek at mile marker 154, Jackson Creek at mile marker 157.8, and Teachout Creek at mile marker 159.5. The report noted that each of these areas was covered under a 404 permit, a sediment plume was in the creek, and instructed consultation with the Army Corps of Engineers for direction on cleaning up the area and installing proper BMPs to prevent discharge.

*Chronic failures of Kiewit to comply with the Construction General Permit*

Below is a summary of Kiewit's failure to follow BMP specifications, implement BMPs in the SWMP, and maintain BMPs identified during CDOT's 26 inspections of the I-25 project between May 6, 2013 and January 22, 2015. CDOT conducted more than one inspection during some months. The repetitive nature of some categories of failures by Kiewit, with many of these occurring during consecutive months, demonstrates the chronic nature of Kiewit's noncompliance with the Construction General Permit and chronic failure to implement CDOT requirements. Kiewit failed to comply with Parts I.D.2 (BMPs shall be adequately designed), I.D.8 (adequate site assessments shall assess adequacy of BMPs), I.B.1 (the SWMP shall be implemented), and I.C.3.c (the SWMP shall include BMP specifications) of the Construction General Permit, all of which are cited in full above.

- Erosion logs (straw wattles) or rock socks were >50% full, overtopped, or otherwise not maintained during 12 of 26 inspections (5/6/13, 6/5/13, 8/22/13, 8/23/13, 8/28/13, 9/30/13, 10/30/13, 2/26/14, 6/2/14, 7/1/14, 7/24/14, and 10/24/14). This failure was identified during seven of eight CDOT inspections between May 6 and October 30, 2013.
- Silt fences were >50% full or otherwise not maintained during 13 of 26 inspections (5/6/13, 8/28/13, 9/30/13, 10/30/13, 12/16/13, 2/26/14, 3/19/14, 4/28/14, 5/29/14, 6/29/14, 7/1/14, 7/24/14, and 11/19/14).
- Vehicle tracking control was not implemented or not maintained during six of 26 inspections (5/6/13, 6/5/13, 9/30/13, 6/29/14, 7/1/14, and 8/19/14).
- Other BMPs were not maintained during five of 26 inspections (6/5/13, 4/28/14, 7/24/14, 10/24/14, and 11/16/14).
- BMPs were missing around inlet and outlet structures during eight of 26 inspections, and this occurred repeatedly in August, September and October of 2013 (8/22/13, 8/28/13, 9/30/13, 10/30/13, 4/28/14, 5/29/14, 8/19/14, and 10/24/14).
- Perimeter BMPs were missing during six of 26 inspections (5/6/13, 8/28/13, 9/30/13, 11/19/13, 4/28/14, and 5/29/14).
- Soil stock piles were missing BMPs during three of 26 inspections (5/6/13, 10/30/13, and 10/24/14).
- Other BMPs were not installed per the SWMP during six of 26 inspections (5/6/13, 8/28/13, 11/19/13, 4/28/14, 6/29/14, and 10/24/14).
- Rock check dams were not installed per specifications during seven of 26 inspections with this failure occurring during five of eight inspections between August 28, 2013 and March 19, 2014 (8/28/13, 11/19/13, 12/16/13, 2/26/14, 3/19/14, 6/29/14, and 9/17/14).
- Erosion blankets failed and/or were not installed per specifications during 10 of 26 inspections with this failure occurring during eight consecutive inspections between June 2 and November 19, 2014 (9/30/13, 4/28/14, 6/2/14, 6/29/14, 7/1/14, 7/24/14, 8/19/14, 9/17/14, 10/24/14, and 11/19/14).

- Stabilization measures were not installed per specifications or were not complete during five of 26 inspections (8/28/13, 3/19/14, 4/28/14, 7/24/14, and 11/19/14).
- Damage to seeded and mulched areas, including erosion, were not immediately repaired as required by the specifications during nine of 26 inspections with this occurring during five consecutive inspections between August 28 and December 16, 2013 (8/28/13, 9/30/13, 10/30/13, 11/19/13, 12/16/13, 3/19/14, 7/24/14, 10/24/14, and 11/19/14).
- Other BMPs were not installed per the specifications during four of 26 inspections (8/28/13, 9/30/13, 8/19/14, and 9/17/14).

#### *Evidence of discharges to waters from I-25 project*

CDOT's inspection reports also demonstrate impacts to waters from sediment on multiple dates from the I-25 project. As a result, Kiewit failed to comply with Part I.D.1.a of the Construction General Permit by causing, having the reasonable potential to cause, or measurably contributing to an exceedance of the water quality standard in CDPHE's Water Quality Control Commission Regulation 31.11. This water quality standard states that water will be free from substances attributable to human-caused point source or nonpoint source discharge in amounts, concentrations or combinations which form bottom deposits detrimental to the beneficial uses.

- The August 23, 2014 inspection report shows the detention pond outfall to Pine Creek (photo 5 of the report), and sediment is visible below the outfall. At Black Squirrel Creek, rills are shown leading into the creek and there are no BMPs along the creek as shown in photo 12 of the report; the caption notes a sediment plume in the creek. At Jackson Creek, there are no BMPs along the creek and flow paths into the creek are visible in photo 16 of the report. Photo 22 of the report shows no BMPs along Teachout Creek.
- The August 28, 2013 inspection report shows no BMPs along the Middle Tributary of Black Squirrel Creek with sediment in the channel and no BMPs above Teachout Creek. It also shows a silt fence near mile marker 158.75 that did not extend then entire length of a "wetland," and the silt fence was overtopped with sediment in sections. The inspection comments on page 33 of the report state, "The storm event resulted in multiple discharges from the site, including Waters of the State."
- The September 30, 2013 inspection report shows no BMPs along Black Forest Creek.
- The November 19, 2013 inspection report shows no BMPs along Jackson Creek.
- The April 28, 2014 inspection report shows no BMPs with no stabilization around Black Forest Creek and no BMPS (aside from mulching) in some areas along Teachout Creek. The report includes a photo at Teachout Creek showing a large rill leading into the creek.
- The March 19, 2014 inspection report indicates that BMPs around the outlet for Jackson Creek have not been maintained, and a photo of sediment on top of a broken silt fence. The caption for the photo indicates the silt fence may have been pushed over by grading activities.
- The May 29, 2014 inspection report shows a disturbed hillside above Jackson Creek with only a silt fence on a small portion of the left side of the hill. Most of the hill has no BMPs.
- The July 24, 2014 inspection report shows an eroded area around the wing wall above Jackson Creek, several rills along the hillside above Jackson Creek, and includes a photo showing rills and sediment that over topped a silt fence by Jackson Creek into a "wetland" area. Rills are also shown leading into Black Forest Creek, and the report notes that BMPs in the area had failed at least twice and need to be stronger.

*Failure of Kiewit to select, install, implement, and maintain BMPs following good engineering, hydrologic and pollution control practices:*

Ms. Erickson stated that Kiewit was told multiple times during CDOT's monthly audit inspections that the BMPs being used on the site would not be adequate and that "more aggressive" BMPs needed to be installed. She stated that in her inspection reports, it was indicated that there was too much area draining to too small of a BMP, but Kiewit did not upgrade the BMPs. Ms. Erickson stated she knew the BMPs were too small, because upon visual assessment, she observed that small rain events resulted in the need for significant BMP maintenance. CDOT documented in several inspection reports that BMPs were not adequate to handle the flows. According to Ms. Erickson, Kiewit received the inspection reports through the inspection database system along with the PE, and was therefore aware of the inspection findings. Kiewit failed to select, install, implement, and maintain BMPs following good engineering, hydrologic and pollution control practices, as required by Part I.D.2 of the Construction General Permit. Kiewit failed to address the inadequacy of the BMPs, as required by Part I.D.8 of the Construction General Permit. By failing to address chronic noncompliance and escalate enforcement (issuing liquidated damages, issuing stop work orders) CDOT failed to ensure Kiewit complied with Part I.D.2 the Construction General Permit. See findings 1CS, 3CS, and 4CS for more details on CDOT's failure to address chronic noncompliance and escalate enforcement. Below are examples where CDOT's inspection reports document the inadequate BMPs.

- In the June 5, 2013 inspection report, Finding #5 states, "The current plan is to cut to final configuration including checks as they pave. However this phasing allows there to be a large disturbed area draining to a few culverts in the short interim. Install additional sediment controls until configuration is achieved. For example, we discussed putting a berm around the culverts to create a ponding..." The rest of the sentence is cut off from the copy provided to the EPA.
- In the August 22, 2013 inspection report, it states under an unnumbered finding on page 5, "The area discharging to Teachout Creek has large bare areas. The ditches leading to Teachout Creek to do not contain check dams. It has been noted by the on-site ECS that sediment transport during rain events is not significant in this area, however a BMP at the end of the ditch (such as a reinforced silt fence or compacted berm) is needed as a precaution. All ditches in the same situation on the site also need a similar BMP installed as a precautionary measure."
- In the August 28, 2013 inspection report, Finding #6 states, "Area upstream of [Teachout Creek] needs additional sediment controls." The corrective action indicates that the US Army Corps of Engineers instructed Kiewit to leave downstream sediment as is and to look into willow staking these areas. Finding #9 states that surface roughening was not enough on steep slopes. Finding #11 states, "Only protection is inlet protection which has been overwhelmed...Install additional BMPs upstream..." Finding #12 states regarding a silt fence along Monument Creek, "The only sediment control in place is a reinforced silt fence along bank. Large (acres) drain here. Need additional BMPs upstream of reinforced silt fence (checks and/or sediment trap) and BMP needed along top of box and upstream of banks." The inspection comments on page 33 of the inspection report state, "Many findings occurred repeatedly and should be addressed site wide, not just at the locations noted in the inspection. They are as [follows]: multiple locations need perimeter control (in particular tracked slopes still need a sediment control at base), on steep and/or long slopes tracking does not appear adequate and additional BMPs are required (for example tackifier, rows of Erosion Control Log, Blanket, etc.), there are large open areas where the only BMP is at the inlet and additional BMPs are required upstream. In general much more redundancy is needed."

- In the September 30, 2013 inspection report, an unnumbered finding on page 18 of the report indicates that controls are needed in the flow line above an inlet. No BMPs are shown in the photo above the inlet.
- In the December 16, 2013 inspection report, an unnumbered finding on page 11 of the report states, “The erosion log around the inlet culvert is not an adequate BMP by [itself], because of large amount of disturbed area draining to the inlet. Enhance inlet protection or add some upstream BMPs.”
- In the February 26, 2014 inspection report, an unnumbered finding on page 8 of the report states, “The [BMPs] in the ditch line are continually overwhelmed by sediment, which is filling downstream culverts. Reinforce and repair existing logs. Add additional, more aggressive, taller, [BMPs] such as straw bales.”
- In the July 24, 2014 inspection report, an unnumbered finding on page 16 of the report states regarding an area where rills led into Black Forest Creek, “Repair areas of damage with a stronger BMP, as the areas in the photo have failed at least twice.”
- In the September 17, 2014 inspection report, an unnumbered finding on page 8 of the report states regarding the Black Squirrel Creek area, “It appears that the ditch is inadequately designed to receive anticipated flows. Design amendment is required to avoid anticipated future illicit discharge in the area...” The finding on page 10 stated regarding No Name Creek, “Ditchline has not been properly contoured or armored to receive anticipated stormwater flow. Design amendment is required to avoid anticipated future illicit discharges in the area...”

#### *Failure of Kiewit to implement corrective actions within 48 hours*

Kiewit failed to implement several corrective actions within 48 hours. Some corrective actions took less than 10 days, but many took weeks or months to implement. The August 19, 2014 inspection report notes on page 33 that multiple findings exceeded the 48 hour time frame for corrections. In addition, there were some corrective actions that were never noted as corrected. The March 24, 2015 inspection report notes seven findings from September 18, 2014; October 24, 2014; and November 19, 2014 that remained uncorrected.

Following the EPA’s inspection, CDOT provided a summary spreadsheet for various construction projects in all five Regions that included the number of corrective actions/findings, number of findings not corrected within 48 hours, number of findings not corrected in 96 hours, the number of 105 speed memos issued, the number of 105 speed memos with liquidated damages issued, and the total amount in liquidated damages associated with a project. Multiple corrective actions/findings can be addressed on one 105 speed memo. For the I-25 project, there were 223 corrective actions/findings, 69 corrective actions that went beyond 48 hours, 53 corrective actions that went beyond 96 hours, and 15 105 speed memos issued, two of which included liquidated damages.

According to the Green Book specification 208.09, liquidated damages will be applied for contractors failing to comply with the Construction General Permit and Green Book specifications. If corrections are not made within 48 hours from the date of notification from the PE, the contractor is charged \$875 for each calendar day after the 48 hour period that one or more failure remains uncorrected. Although two 105 speed memos with liquidated damages were issued for the I-25 project, none were collected. In addition, corrective actions took well beyond 48 hours for 69 findings following several of CDOT’s inspections. Based on the March 24, 2015 inspection report, seven corrective actions from September, October, and November 2014 were never completed, as stated above. CDOT failed to implement the liquidated damages provision of the Green Book for the I-25 project.

Examples of the corrective actions that took much longer (>10 days) are listed below.

- The February 26, 2014 inspection report notes broken silt fence, erosion logs that need maintenance, installation of additional erosion logs, finishing of final stabilization where it is incomplete, and addition of BMPs in ditch lines where BMPs are overwhelmed, that were corrected in 30 days.
- Seeding repairs are noted in the March 19, 2014 inspection report and were completed in 43 days.
- A stabilization finding noted in the April 28, 2014 inspection report was addressed through stabilization measures implemented 16 days later.
- Gullies noted in the April 28, 2014 inspection report were addressed in 63 days.
- The June 2, 2014 inspection report identifies two locations with gullies under failing erosion blankets that were fixed in 25 and 28 days. One area with a failing erosion blanket was to be redesigned, but this corrective action plan was not entered into the database until 28 days later. It is unknown when the corrective action by Kiewit actually occurred since only the corrective action plan was entered.
- The June 29, 2014 inspection report identifies an area where the erosion blanket is overwhelmed by concentrated flow and the flow created a gully. The ditchline was reshaped, sprayed with Bio Earth, and reblanketed in 11 days.
- The July 24, 2014 inspection report notes erosion around the wing wall along Jackson Creek, and the slope was not repaired for 20 days. Temporary stabilization had not been applied as required, which was corrected with dirt glue in 28 days. Stabilization failed in an area, which was not corrected for 27 days. An area that had been seeded/mulched where a gully formed was regraded, reseeded/mulched, and erosion control logs were placed around the inlet after 125 days had passed. An area with an erosion blanket was installed without seeding underneath, and Green Book specification 216 requires soil retention covering to have seeding underneath; this was not corrected was not was corrected for 120 days .
- The August 19, 2014 inspection report notes two locations where permanent slope drains need to be installed, which were addressed in 65 and 94 days. Rock check dam spacing findings were corrected in 65 days. Rock that needed to be added to a drainage that was eroded was done in 65 days.

According to Ms. Erickson, she recommended the PE issue a stop work order for on-going BMP issues, and a stop work order was supposed to have been issued for the entire I-25 project in July 2014. However, Ms. Erickson indicated that a full stop work order may not have been issued, as she continued to observe contractors working at the site. There was no indication in the documentation provided to the EPA that a stop work order was issued by the PE. The August 19, 2014 inspection report states in the comments section on page 33, "In talking to the PE [liquidated damages] have been assessed and a schedule has been agreed upon to correct present findings (note 6 findings have not been addressed from last monthly conducted on 7/23/2014). The PE should continue to assess [liquidated damages] as necessary and review section 208.09 to pursue Stop Work order."

#### Highway 36 Project - Ames Construction, Inc.

On January 6, 2014 CDPHE issued a Notice of Violation (NOV) to Ames Construction, Inc. (Ames) for violations of CDPHE's Construction General Permit (authorization to discharge number COR03J245), at the construction project along Highway 36 (Highway 36 project). It was noted that Ames also held